Remarks

Changes Made

Claim 1 and the remaining claims referring to a predetermined maximum utilization "set" for a resource have been amended to refer to a predetermined maximum utilization "that is set" for the resource, thereby making it clear that "set" is being used here as a verb and not as a noun meaning a collection of objects.

Claim 8 has been amended to recite that an external command is received "from an operator" and that the final step is performed in response to "said external command". Claims 9, 15-16 and 19-20 have been similarly amended.

Claim Rejections—35 U.S.C. § 112

The above amendment of claim 1 and other claims containing the term "set" is believed to overcome the Examiner's rejection of those claims under 35 U.S.C § 112, since it is now clear that no set in the mathematical or logical sense is being referenced.

Similarly, the above amendment of claim 8 and other claims containing the term "external command" is believed to overcome the Examiner's rejection of those claims under 35 U.S.C § 112, since it is now clear that the external command originates from an operator and that the command responded to is that external command.

The Examiner also asserts that claim 8 and similar claims are indefinite (page 2, ¶ 2(b))

> "because it is not made explicitly clear how the utilization of the resource is set by the command if the external command merely specifies or identifies a maximum utilization. It is unclear whether or not the setting refers to allocating or changing values."

Regarding this argument, claim 8 is directed merely to a method for "managing" resources. It does so by setting the maximum utilization[1] of a resource in response to an operator command. Therefore, the Examiner's assertion that claim 8 does not make it "explicitly clear how the utilization of the resource is set by the command" is based upon a false premise—namely, that the object of the method is to set such utilization. Claim 8 does not purport to set the actual, as opposed to maximum, utilization of the resource, so its failure to define how the actual utilization may be set is irrelevant to the question of definiteness. As for whether claim 8 refers to allocating or changing values. it does, by its terms, change a value, but that value is the maximum utilization, and not the actual utilization, of the resource.

Claim Rejections—35 U.S.C. §§ 102 and 103

1.   Claims 9-12, 16 and 20

This group of claims contains three independent claims: claims 9, 16 and 20. These three claims are directed to a method, apparatus and a program storage device, respectively for managing a resource in an information handling system in which a plurality of processes executing on the system utilize the resource. In accordance with the invention, in response to receiving an external command from an operator for the display of the current utilization of the resource by a specified one of the processes, a display is generated of the current utilization of the resource by the specified process. This corresponds to applicants' DISPLAY OMVS,LIMITS (D OMVS,L) command, shown in Fig. 3 and described at pages 11-16.

Claims 9-12, 16 and 20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Ranganathan (US 2002/0147759 A1).

Ranganathan describes an adaptive resource utilization apparatus for an application. In paragraph [0022], the patentee defines the "costing coefficient" of each thread as its percentage of processor utilization over a defined time period, so the sum of the costing coefficients of all

---

[1] Although not recited in claim 8, the maximum utilization may be used for such purposes as controlling the generation of messages, as claimed in claim 1.

threads is 1. As described in paragraph [0052], a software costing mechanism 625 (Fig. 6) provides "thread-based hierarchical costing metrics in the form of statistical averages" to other applications so that those applications "may modify operating parameters to efficiently account for usage of resources."

As amended, applicants' claims in this group all recite that in response to an external command received from an operator, a display is generated of the current utilization of a resource by a specified one of the plurality of processes. Neither of these aspects of applicants' claimed invention—origination of a command from an operator and generation of a display of resource utilization—is to be found in Ranganathan.

With respect to the first of these aspects of applicants' claimed invention—origination of a command from an operator—the Examiner asserts that the Ranganathan system receives "instructions" from "peripheral devices". This appears, however, to equate to the normal step of loading programs from peripheral storage into main memory. Such "instructions" do not originate from an operator as claimed by applicants.

With respect to the second of these aspects of applicants' claimed invention—generation of a display of resource utilization—the Examiner points to Fig. 6 of the reference application, which shows a display adapter 650 and display device 660. Again, these are merely the usual concomitants of a computer system. There is no suggestion of using these elements to display resource utilization, as claimed by applicants. Rather, the display subsystem is used to display such things as multimedia data [0053], while the costing metrics are provided to other applications for their internal use [0052].While the resource utilization data may be used to control such things as the display [0055], the ultimate consumer of the data is an application and not the display itself.

About the only commonality, therefore, between Ranganathan's system and applicants' claimed system is that both deal in some manner with performance metrics. However, in applicants' claimed system, the resource utilization data is requested by an operator and provided to a

display. In Ranganathan's system, on the other hand, the data is requested by, and ultimately used by, applications. Hence, Ranganathan fails as an anticipatory reference.

2.   Claims 1-7, 13-14 and 17-18

Claims 1-7, 13-14 and 17-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ranganathan in view of Sim (US 2002/0083118). This rejection is likewise respectfully traversed.

The independent claims of this group are directed to a method, apparatus, and a program storage device, respectively, for managing a resource in an information handling system in which one or more processes executing on the system are utilizing the resource. In accordance with the invention, a current utilization of the resource is determined and compared with a predetermined maximum utilization that is set for the resource. A message is generated if the current utilization of the resource reaches a predetermined threshold relative to the predetermined maximum utilization that is set for the resource. This corresponds to the resource monitoring aspect of applicants' invention (pages 18-21) shown in Figs. 4A-4C.

Ranganathan has already been discussed. Sim describes a method and apparatus for managing a plurality of servers in a content delivery network. As described in paragraph [0206] on page 20, a service management subsystem 2080 (Fig. 20) "evaluates statistics information and compares it to a user-defined resource-usage threshold to decide whether to send a notification to an operator via the management console, or turn services on or off as configured by the operators."

While the operation described in Sim has some similarities to applicants' claimed invention, it differs in other, critical respects. In applicants' claimed invention, the current utilization of a resource is compared with a predetermined maximum that is set for the resource, and a message is generated if the current utilization reached a predetermined threshold relative to that maximum. In Sim, on the other hand, all we have is comparison of "statistics" information with a "threshold". Although the statistics information may relate generally to "resource usage" (which is what the threshold relates to), there is no express teaching that the statistics information relates

to current utilization of a resource as claimed by applicants. Moreover, even if Sim is comparing resource usage data to a threshold, the patentee is not comparing a current resource utilization with a predetermined <u>maximum</u> resource utilization, as claimed by applicants, nor does the notification Sim in depend on whether the current utilization reaches a predetermined threshold <u>relative to that maximum utilization</u>, as further claimed by applicants.

Accordingly, even if Sim is combined with Ranganathan as suggested by the Examiner, the resulting combination does not teach applicants' claimed invention.

3. Claims 8, 15 and 19

Each of claims 8, 15 and 19 is directed to a method, apparatus or program storage device in which, in response to an external command from a operator, the maximum utilization of a resource by a specified one of a plurality of processes is set as specified by the command, independently of any other of the processes executing on the system.

Claims 8, 15 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ranganathan in view of Anbiah et al. US 6,690,671 B1 ("Anbiah").

Ranganathan has already been described above. Anbiah relates to load-balanced UBR (unspecified bit rate) routing in ATM (Asynchronous Transfer Mode) networks. According to the Examiner, Anbiah "teaches a plurality of processes of a load balancing routing module that sets the resource with maximum utilization in order to obtain efficient load balancing and to minimize congestion". Therefore, the Examiner argues, it would be obvious "to combine the feature of setting said maximum utilization of said resource by said specified one of said plurality of processes as specified by said command to Ranganathan's adaptive resource utilization apparatus in order to obtain the advantages of Anbiah's teachings mentioned above". Applicants respectfully disagree.

In the excerpts referenced by the Examiner (col. 1, lines 23-25; col. 4, lines 26-40), Anbiah speaks of minimizing network congestion by choosing either the least overutilized path (if the
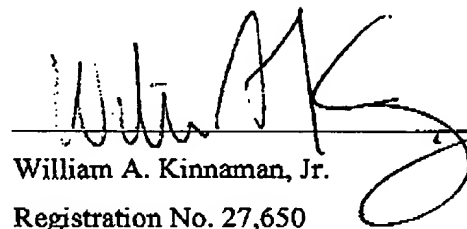
path utilizations are all over 100%) or the path that maximizes unused bandwidth. In neither case is a maximum utilization of a resource being <u>set</u> (as opposed to being used for some other action), nor is an <u>external operator command</u> involved, nor is the utilization of the resource <u>by a specified process</u> the target of the action, all as claimed by applicants. Therefore, even if the teachings of Anbiah are combined with those of Ranganathan as suggested by the Examiner, the result would not be applicants' claimed invention.

Conclusion

For the foregoing reasons, claims 1-20 as amended comply with 35 U.S.C. § 112, second paragraph, and distinguish patentably over the references cited by the Examiner. Accordingly, applicants respectfully request that the Examiner reconsider the claims as amended and, upon such consideration, allow the application. Such action is earnestly solicited.

Respectfully submitted,
MICHAEL G. SPIEGEL et al.

By

William A. Kinnaman, Jr.
Registration No. 27,650
Phone: (845) 433-1175
Fax: (845) 432-9601

WAK/wak

POU9-2001-0077-US1   11   09/912,193